COUNTY OF MAUI

WASTEWATER RECLAMATION DIVISION

CONSTRUCTION RELATED SPILLS CONTROL PLAN

(General Protocol for Performing Work on Or near County Wastewater System)

Prepared by:
Wastewater Reclamation Division
County of Maui

January 2002

Table of Contents

Appendices

Figures

I. INTRODUCTION

The potential environmental impacts of wastewater spills necessitates the establishment of general protocols for all work performed on or near the County wastewater system. Failure to adhere to the protocol may result in damage to Hawaii's sensitive eco-system, impacts to area residents, and possible fines from the United States Environmental Protection Agency and State Department of Health. The fines would be assessed to the parties responsible for the spill.

The general protocols are to assist designers, developers and contractors to determine the amount of preparation required when developing plans or performing construction on or near the wastewater system. The general protocol for the Wastewater Reclamation Division (WWRD) for the development of plans and/or construction near the wastewater system will be defined in the following sections.

First, the types of work with the potential to impact the wastewater system will be identified along with the consequences of the impacts to the wastewater system. The types of work may vary from close proximity to the system to replacement of a portion of the system. The consequences could range from no significant impact to significant impacts to the environment.

The protocol guidelines for various types of work performed near the wastewater system will be provided. Necessary coordination with either the Wastewater Reclamation Division or Land Use and Codes Administration (LUCA) will be identified.

Designers and Developers will benefit by including this protocol in their design. The identification of contractor responsibilities when performing work on or near the wastewater system should result in better estimates of construction costs. Contractors will also benefit by knowing what is required for any work performed on or near the wastewater system. The County will benefit by eliminating/minimizing wastewater spills and thus protecting surrounding residents and the environment.

II. TYPES OF CONSTRUCTION

The spillage or overflow of untreated or partially treated sewage to the ground, surface waters and drainage courses is prohibited at all times. Any incident resulting from a contractor's work performed on or near the wastewater system could result in penalties, fines and clean up costs. The purpose is to encourage sufficient planning prior to construction near the wastewater system to minimize the potential for an incident.

The type of work with the potential to impact the wastewater system includes, but is not limited to, the following:

1. Excavating Near Wastewater Lines
2. Lateral Connections with Existing Stub out
3. Lateral Connections to Gravity Line without Existing Stub out
4. Lateral and Gravity Line Connections to Manhole
5. Relocation of Gravity Line
6. Relocation of Force Main

The general guidelines for each type of work will be provided in the following section. A key element in all the guidelines is meeting with the Wastewater Reclamation Division to discuss the work to be performed on or near the wastewater system. The guidelines are flexible and may be adjusted based on the project parameters.

The Wastewater Reclamation Division is located at:

200 South High Street, 3rd Floor
Wailuku, Maui, Hawaii 96793
(808) 270-7417
Fax - (808) 270-7425

III. GUIDELINES FOR CONSTRUCTION

The coordination between designer, developer, contractor, LUCA and the WWRD is identified in the procedural flowcharts shown in Figures III.1 and III.2. Coordination between the WWRD and all parties involved in any proposed construction on or near the wastewater system is essential during the planning and design stages as this allows for modifications prior to construction. The flowcharts indicate that coordination, at the latest, should begin with the contractor's application for Work to Perform on County (or State) Highways Permit. Contractors need to be aware that review comments requiring plan modifications could affect project scheduling.

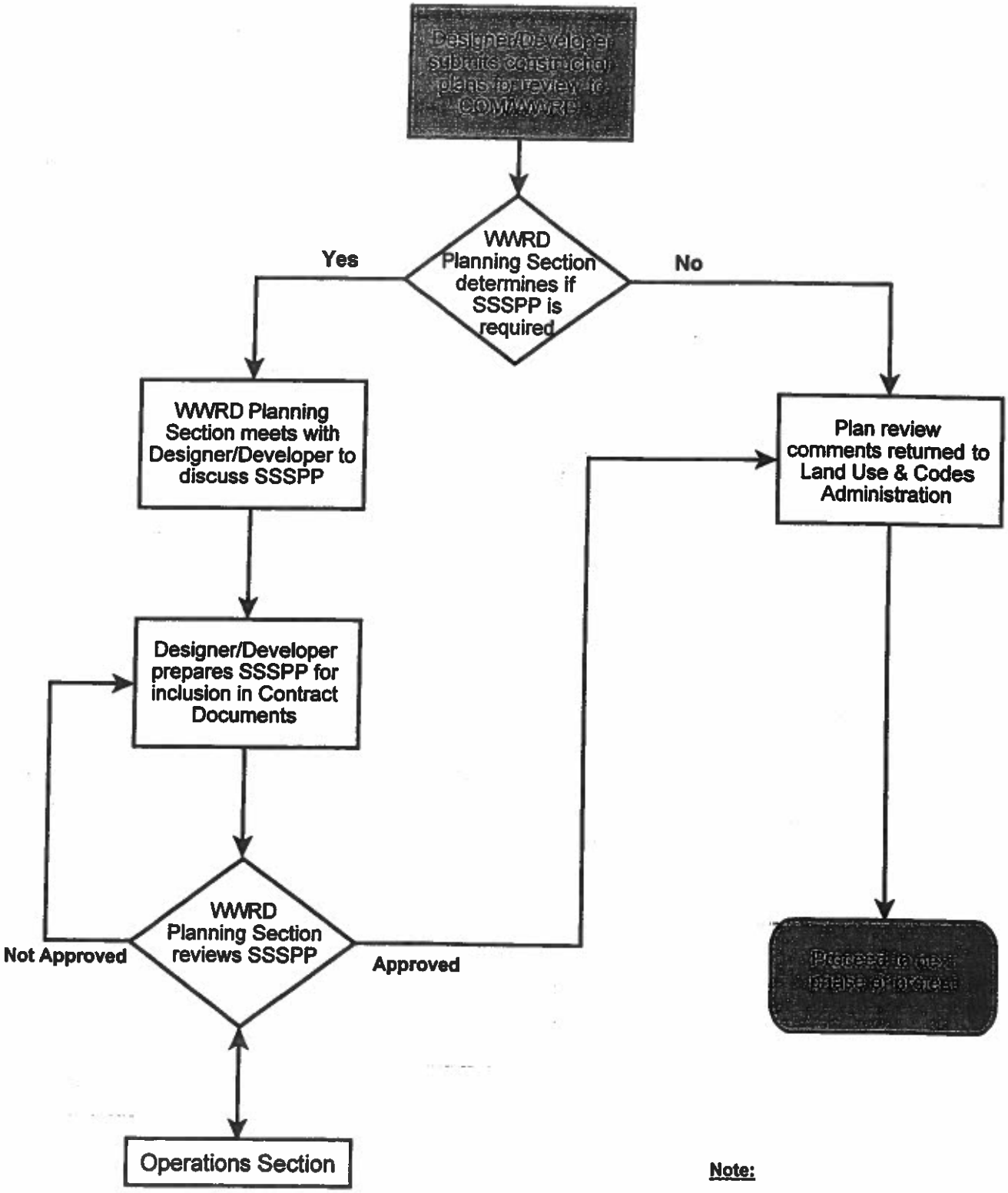
A. SITE SPECIFIC SPILL PREVENTION PLAN (SSSPP) REQUIREMENT

The SSSPP identified in the flowcharts define what actions designers, developers, and contractors need to plan to perform to minimize the potential for an incident. The type of work to be performed on or near the wastewater system will dictate the type of meeting with the WWRD and the details required in the SSSPP. For example, a construction project in proximity to the wastewater system may require no meeting and only a simple SSSPP for WWRD review. Such a plan may only require the affirmation of the wastewater line location and what the contractor plans to perform in the event of an incident.

Other typical elements included in a SSSPP are bypass plans, shutdown plans, equipment lists, incident response plans and other items necessary to minimize the potential of damage and to mitigate incidents. In preparing the SSSPP, the Designer/Developer/Contractor shall observe the following general requirements:

a. Anticipate the operating conditions to be encountered in the wastewater system in proximity to the construction site. Contact the WWRD to obtain

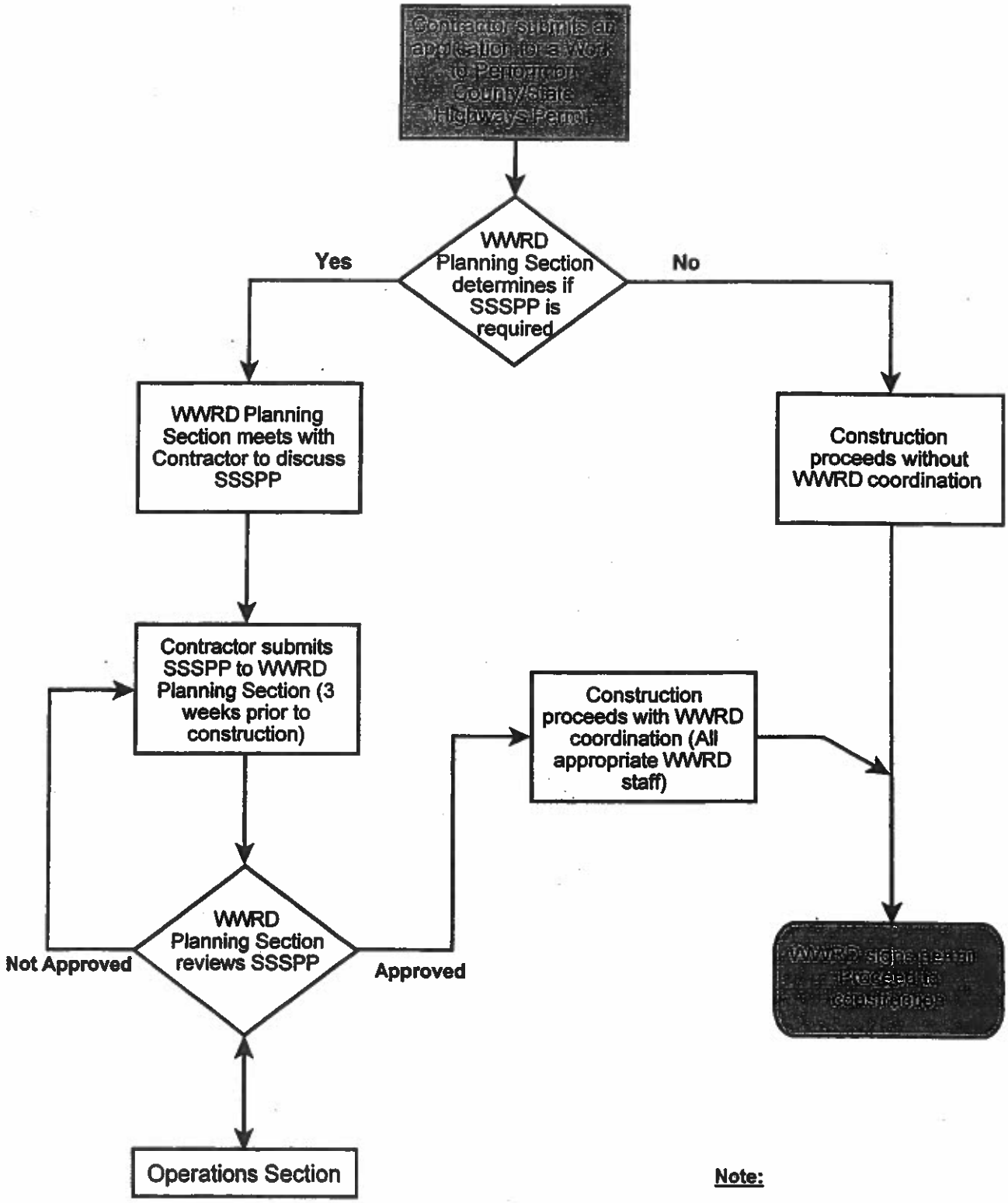
SITE SPECIFIC SPILL PREVENTION PLAN
CONSTRUCTION PHASE OF PROJECT
PLAN SUBMITTAL FLOWCHART
Figure III.1



Note:

A SSSPP is required if construction is in proximity to the County's wastewater collection system. Spill prevention is the primary goal.

SITE SPECIFIC SPILL PREVENTION PLAN
CONSTRUCTION PHASE OF PROJECT
PLAN SUBMITTAL FLOWCHART
Figure III.2



Note:

A SSSPP is required if construction is in proximity to the County's wastewater collection system. Spill prevention is the primary goal.

information on system flows, pressures, capacities, allowed downtime, outage limitations, etc., that may impact the preparation of the SSSPP.

b. Identify planned actions to minimize the potential for an incident. (To be determined on a project by project basis.)

c. Identify and provide necessary labor, equipment and materials to provide a complete and functional SSSPP. This includes the design and construction of any temporary systems as part of the SSSPP.

d. Provide necessary backup systems to ensure complete functionality of the SSSPP at all times.

e. The inspection of the SSSPP in the field prior to construction will be performed by the WWRD; the contractor is responsible for monitoring the system during construction. The termination of the SSSPP and equipment removal will be inspected by the WWRD.

f. A copy of the SSSPP is required to be available for review on the construction site.

B. CONSTRUCTION CONDITIONS

In the process of following the procedures identified in Figures III.1 and III.2, the following guidelines provide the minimum effort required by contractors for projects in proximity to the wastewater system. The primary conditions of concern include, but are not limited to, the following:

1. Excavation Between 5 and 10 Feet of the Wastewater System
2. Excavation Within 5 Feet of the Wastewater System
3. Connection to an Existing Stub out
4. Connections to Existing Gravity Lines or Manhole or Installation of a New Manhole

5. Relocation of Existing Gravity Line
6. Relocation of Existing Force main Line

1. Excavation Between 5 and 10 Feet of the Wastewater System

The wastewater system includes gravity lines, force mains and manholes. In this general case, a SSSPP is not required, but if due to site conditions there is a potential for damage to the wastewater system as a result of the proposed construction, a SSSPP may be required.

The following actions are required:

a. Two (2) days prior to construction near the wastewater system, the contractor will request WWRD collections personnel to field verify approximate location of the wastewater system. At this time, the contractor shall provide a construction schedule for all work involving the SSSPP.

b. During construction, when within 10 feet of the approximate location of the wastewater system, the contractor will probe the area to locate the wastewater system before excavating with heavy equipment.

c. If a SSSPP is required, the submittal and approval process for the SSSPP is required. Once the permit is approved, coordination with the WWRD inspector is required. The contractor shall provide a schedule of work and notify the WWRD inspector a minimum of 2 working days prior to performing construction related to the SSSPP.

d. If a SSSPP is required, a WWRD inspector is required during excavation activities. The inspector will ensure that the SSSPP is implemented.

2. Excavation Within 5 Feet of the Wastewater System

All excavation within 5 feet of the wastewater system will require a SSSPP except when connecting to an existing stub out. The submittal and approval process for the SSSPP is required. The following actions are required:

a. Follow the construction requirements for construction between 5 and 10 feet of the wastewater system. Once the wastewater system is located through probing the area, the contractor shall excavate the area by hand only when within 5 feet of the wastewater system.

b. Prior to construction within 5 feet of the wastewater system, the contractor will request, 2 workdays in advance of construction, a WWRD inspector. Construction within 5 feet of the wastewater system will require a WWRD inspector during excavation activities. The inspector will ensure that the SSSPP is implemented.

The elements identified in the SSSPP will have to be in place prior to allowing any construction to occur within 5 feet of the wastewater system. The WWRD inspector is responsible to ensure the contractor implements a complete and functional SSSPP.

3. Connection to an Existing Stub out

Connections to an existing stub out does not require a SSSPP. The procedures for excavation near the wastewater system will be followed. The stub out should be temporarily plugged until the final connection is completed. This is to prevent construction material from entering the County's wastewater system. A WWRD inspector is also not required. Construction coordination will be with the LUCA inspector.

4. Connections to Existing Gravity Lines or Manhole or Install a New Manhole

Connections to a gravity line or manhole or the installation of a new manhole over an existing line will require a SSSPP. The submittal and approval process for the SSSPP is required. The following actions are required:

a. Construction related to the SSSPP: the contractor will coordinate with the WWRD inspector the schedule of work and notify the WWRD inspector a minimum of 2 working days prior to construction.

b. Construction within 5 feet of the wastewater system: the contractor shall request, 2 workdays in advance of construction, a WWRD inspector. Construction within 5 feet of the wastewater system will require a WWRD inspector during all excavation activities or CCTV of the wastewater system before and after construction within 5 feet of the wastewater system. The inspector will assure that the SSSPP is implemented.

The elements identified in the SSSPP have to be in place prior to allowing any construction to occur. The WWRD inspector is responsible to ensure the contractor implements a complete and functional SSSPP.

5. Relocation of Existing Gravity Line

The construction details will determine whether a SSSPP is required. When submitting design plans for review and comment, include a sequence of construction plan to assist with this determination and to aid the determination of the activities involved with the SSSPP (if required). If a SSSPP is not required, the WWRD inspector is also not required and construction coordination is with the LUCA inspector.

Prior to construction within 5 feet of the wastewater system or connection to the existing system, the contractor will request, 2 workdays in advance of construction, a WWRD inspector. The elements identified in the SSSPP have to be in place prior to allowing any construction to occur within 5 feet of the wastewater system. The WWRD inspector is responsible to ensure the contractor implements a complete and functional SSSPP.

6. Relocation of Existing Force Main Line

Proposed construction involving force mains require a SSSPP. The WWRD effort associated with SSSPP's for force mains is substantial and requires significant planning. The contractor is responsible for the cost of all field personnel required to support this type of effort. In the design phase of a project, the designer/developer shall contact the WWRD, Planning Section, to review any proposed force main relocations. The contractor shall notify WWRD, Planning Section at least 3 weeks before any work is to occur.

The following actions are required prior to construction:

a. Meet with WWRD Planning staff to discuss construction details and methodologies of work to be performed. The SSSPP options will be discussed. Depending on the work to be performed, the SSSPP may or may not require a bypass plan.

b. Contractor shall submit a SSSPP based on the guidance provided at the meeting with the WWRD. The SSSPP will be reviewed, modified if required and finally approved.

Once the SSSPP is approved, project coordination is with the Wastewater Inspector. The following actions are required during construction:

a. The proximity of the construction work to the existing force main will dictate whether or not the SSSPP is required to be in place prior to construction. If the risk of damaging the force main is high, then the SSSPP must be in place and operating. The construction of the new force main must exercise the standard procedures for construction near wastewater facilities. Contractor should construct the entire new force main except for the tie-ins.

b. When the SSSPP is required to be operational, a dry run of the SSSPP must be performed as a last check. All spare parts and required equipment must be available and on site. The SSSPP can be implemented once the dry run is completed and approved.

c. With the SSSPP operational, the construction of the tie-ins can be completed. After the work is completed, the new force main can be put into operation. As a precaution, the SSSPP should be kept in place until it is verified that the new force main has been hydro-tested and is sound. Should a leak occur, the contractor must either repair the leak immediately or reactivate the SSSPP.

d. After the new force main is accepted, the SSSPP can be removed.

IV. CLOSING REMARKS

Any construction that involves excavation runs the risk of impacting underground utilities. This document is intended to help reduce the probability of impacting wastewater infrastructure. Damage to wastewater infrastructure have more than just inconvenience type impacts. The primary impact is environmental with the spillage of wastewater unto the ground or, worse yet, into bodies of water.

As the locations of underground utilities are generally available at each utility office, it would be prudent for designers and contractors to access this information. The potential financial implications of not locating underground utilities is limitless.

In the event of a wastewater spill event, contractors are responsible for all costs beyond those identified in the SSSPP. If the spill requires additional equipment, material, and manpower, the contractor is responsible. If the spill results in fines from environmental protection agencies, the contractor is responsible.

When working on or near the wastewater system, planning the work and the associated SSSPP is deemed more practicable than mitigating possible impacts.

This document was prepared by the Wastewater Reclamation Division, Department of Public Works and Waste Management. Users are invited to send comments to the Division Chief, Wastewater Reclamation Division, County of Maui, 200 South High Street, Wailuku, HI 96793.

Approved for distribution:

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Dave Goode
Director of Public Works
and Waste Management

APPENDIX A

SITE SPECIFIC SPILL PREVENTION PLAN

January 2002

Site Specific Spill Prevention Plan

The following questions offer an introduction to Site Specific Spill Prevention Plans (SSSPP's). The questions are commonly asked by developers of SSSPP's.

What is a SSSPP?

The SSSPP is the plan that is developed when construction work will occur in proximity to the wastewater system. If it is determined that there is a potential for damage to the wastewater system during construction, then a plan is required.

Who needs a SSSPP?

The determination of who needs a SSSPP will be determined by the Wastewater Reclamation Division (WWRD) Planning Section. Key criteria used in deciding if a SSSPP is require includes but is not limited to the proximity to the wastewater system, the type of construction, the environmental impact potential of a spill and the duration of the construction.

Where does the SSSPP fit into the development process?

If it is determined that a SSSPP is required, it is best developed in the design phase but is acceptable prior to Work to Permit approval. The sooner a SSSPP is developed, the better prepared all involved parties are for construction. If the designer prepares the SSSPP, then bidding contractors have a better idea of what work is required for construction in proximity to the wastewater system.

What is the goal of the SSSPP?

The SSSPP is to provide the WWRD with a level of assurance that the proposed construction work will not result in damage to the wastewater system and in the worst case, a spill event. The WWRD wants to be assured that the probability of the worst case event is minimized and that the contractor and the WWRD are prepared to respond to a spill event. This preparedness is to minimize the environmental impact of a spill event.

The following sections will discuss SSSPP Development, What Is In a SSSPP? and SSSPP Implementation. The extent at which the wastewater system is impacted by construction varies from just in close proximity to force main relocations. As much as the impact varies, so does the required SSSPP vary. It would require volumes of plans to cover every scenario so the scenarios have been divided into six (6) categories. They are:

1) Excavation Between 5 and 10 Feet of the Wastewater System
2) Excavation Within 5 Feet of the Wastewater System
3) Connection to an Existing Stubout
4) Connections to Gravity Lines or Manholes and Install New Manholes
5) Relocation of a Gravity Line
6) Relocation of a Force Main

SSSPP DEVELOPMENT

The process of developing the SSSPP starts with identifying the construction work and its proximity to the County wastewater system. The sharing of this information is best done at the design level but is acceptable at the Work to Perform permit application level. Prior to developing the SSSPP, either a discussion or meeting should be arranged with the WWRD Planning Section.

The extent of the construction and its impact to the wastewater system will determine the content of the discussion/meeting. In the discussion/meeting, a conceptual SSSPP will be jointly developed by the WWRD and the designer/contractor. The designer/contractor can then use this conceptual plan to develop the SSSPP for review and approval.

In the discussion/meeting, two primary elements need to be determined. The first element is the level of impact the construction will have on the wastewater system. The second element is the potential impact to the environment should there be a spill event.

The level of impact the construction will have on the wastewater system varies from just being in the proximity to relocating a force main. The potential environmental impact could vary from a small spill in the construction pit to a ruptured force main spilling hundreds of gallons of raw wastewater per hour ultimately reaching the ocean. The cost associated with the spill events range from a simple cleanup and disinfection of the construction pit to a massive cleanup effort with significant fines from DOH and EPA.

The review and approval process should take about two weeks, provided no revisions are required. This time frame may vary based on the complexity of the SSSPP.

WHAT IS IN A SSSPP?

The SSSPP is the document that 1) identifies the construction work to be performed that requires the plan; 2) describes the wastewater system element(s) to be impacted; 3) identifies the spill prevention plan which details the preventative actions that are to be implemented prior to construction; and 4) identifies the spill response plan which details the actions to be undertaken in the event of a spill. The description of construction work must clearly identify the construction work being performed with regards to the wastewater system. The description of the construction work should identify the following:

1) Project Location
2) The type of construction being performed
3) The impact to the existing wastewater system

The description of the wastewater system element to be impacted is important as the data is used to assess the potential severity of a spill event. The following should be included:

1) A description of the wastewater system element to be impacted
2) The service area feeding the wastewater system element
3) Flow data into the wastewater system element

The flow data for the wastewater system element could include a pipeline or manhole flow rate, pipeline pressure, pipeline capacities, allowable downtime, pump station outage limitations and

other pertinent data necessary to determine the potential environmental impact of a spill event.

The preventative actions that are to be implemented prior to construction should include the following:

1) Equipment and materials
2) List of personnel with responsibilities and telephone numbers
3) Plan of action
4) WWRD checklist, if necessary

The list of equipment and materials are for a complete functional plan with backup equipment and materials to cover faulty equipment and power outages, should power be required. The list of personnel to be on site and on standby with telephone numbers is necessary. The plan of action should provide all details of the plan to prevent spills. The details of the plan will be developed on a project by project basis.

The WWRD has a checklist for shutdown and bypass plans. The checklist identifies general and specific requirements. The general requirements are associated with good practice procedures when performing a shutdown or bypass. The specific requirements are associated with the development and implementation of the SSSPP. A copy of the checklist is Attachment #1.

The plan to react to a spill event should include the following:

1) Equipment and materials
2) List of personnel with responsibilities and telephone numbers
3) Plan of action

All four elements of the SSSPP should be prepared in a complete and orderly manner. The SSSPP has to able to provide a complete understanding of the plan of action. Someone that is unfamiliar with the project should be able to pickup the plan and know exactly what will occur.

SSSPP IMPLEMENTATION

Who is the primary contact point for the WWRD?

Once the SSSPP is approved, the point of contact for the WWRD for the plan implementation will remain with the WWRD Planning Section, unless otherwise specified.

How much advance notice of work is required?

A minimum of 48 hours advance notice of work is required to coordinate involved WWRD efforts. Longer advance notices are preferred especially if WWRD manpower and equipment are required. If insufficient advance notice is given, the WWRD will exercise its right to delay the construction involving the SSSPP.

Who needs to be on site and for how long?

All SSSPP's require the WWRD construction inspector as a minimum. The SSSPP will dictate the additional WWRD staff needed to be present. The description of the construction work should identify the amount of time the WWRD staff needs to be present.

What is the responsibility of the Designer?

The Designer is responsible to the owner to provide a complete picture of the proposed construction. A picture that includes the potential impacts and costs associated with the County's wastewater system. The complete picture of the proposed construction will help the owner to budget adequate funds and contractors to provide a more detailed cost estimate.

As the Designer develops the construction plans, it is the Designer's responsibility to identify the location of the County's wastewater system and any potential impacts. If design modifications cannot eliminate impacts to the County's wastewater system, then the Designer should contact the WWRD to discuss alternatives, design requirements, and construction requirements.

The Designer is then responsible for developing the required documents to eliminate/minimize wastewater spills. The approved required documents are then to be included in the project documents for contractors to base their bids on.

What is the WWRD's responsibility?

The WWRD representative is responsible for making sure the contractor implements a proper SSSPP. The WWRD representative will perform the following tasks:

1) Inventory and inspect the personnel, equipment and materials required by the SSSPP
2) Inspect the implementation of the SSSPP, both the spill prevention and spill response
3) Approve plan implementation and removal

If the WWRD representative finds a deficiency in the inventory of the personnel, equipment and/or the materials, judgement will be exercised as to whether to stop the work until the deficiency is corrected or allow work to continue. If in the implementation of the spill prevention or spill response plans a deficiency is identified, the same judgement will be exercised.

Once the WWRD representative approves the implementation of the SSSPP, then construction can proceed. If during construction the spill prevention plan fails, the WWRD will exercise the right to stop construction and enact the spill response plan. If in the WWRD representative's judgement the spill response plan is not adequately mitigating the spill, the contractor needs to use more personnel, equipment and/or material to mitigate the spill. If the spill is still not adequately being mitigated, the WWRD representative will have the right to engage WWRD forces to mitigate the spill. The cost of engaging WWRD forces will be the responsibility of the contractor.

What is the responsibility of the Contractor?

The Contractor's responsibility started with the application for the Work to Perform permit. The Contractor is responsible for coordinating with the WWRD the development of the SSSPP. Once the SSSPP is approved, the Contractor is responsible for all elements of the SSSPP unless otherwise agreed to by the WWRD.

The contractor needs to be aware of the following:

a. Anticipate the operating conditions to be encountered in the wastewater system in proximity to the construction site. Contact the WWRD to obtain information on

system flows, pressures, capacities, allowed downtime, outage limitations, etc., that may impact the preparation of the SSSPP.

b. Identify planned actions to minimize the potential for an incident. (To be determined on a project by project basis.)

c. Identify and provide necessary labor, equipment and materials to provide a complete and functional SSSPP. This includes the design and construction of any temporary systems as part of the SSSPP.

d. Provide necessary backup systems to ensure complete functionality of the SSSPP at all times.

e. The inspection of the SSSPP in the field prior to construction will be performed by the WWRD and the contractor is responsible for monitoring the system during construction. The termination of the SSSPP will be inspected by the WWRD.

f. A copy of the SSSPP is required to be available for review on the construction site.

ATTACHMENT 1

WASTEWATER RECLAMATION DIVISION

SHUTDOWN AND BYPASS PLAN REQUIREMENTS

APPENDIX B

CONTRACTOR WASTEWATER INFRASTRUCTURE DAMAGE AND SPILL REPORT

January 2002

Contractor Wastewater Infrastructure Damage / Spill Report

Contractor Name:_____

Contractor Representative filing report:_____

Follow-up Contact Number:_____

Date / Time of damage:_____

Location:_____

Description of damage: _____

Estimated quantity of spill:_____

Was spill contained in an excavation ?_____

Did any wastewater enter storm drainage or water way ?_____

Time of Wastewater Division notification _____

WWRD personnel notified _____

Contractor actions prior to WWRD personnel arrival: _____

_____

_____

Instruction from WWRD personnel:_____

_____

_____

Follow-on Actions / Assistance requested:_____

_____

_____

_____